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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,806	02/08/2001	Ouelid Abdeselem	CE50044P	5599
20280	7590	05/23/2005	EXAMINER	
MOTOROLA INC 600 NORTH US HIGHWAY 45 ROOM AS437 LIBERTYVILLE, IL 60048-5343			SHAH, CHIRAG G	
			ART UNIT	PAPER NUMBER
			2664	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/779,806	Applicant(s) ABDESSELEM ET AL.	
	Examiner Chirag G Shah	Art Unit 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 9 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remarks page 1, paragraph 2, filed 10/29/04, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Meidan et al.
2. Applicant's arguments with respect to claim 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Specification

3. The abstract of the disclosure is objected to because in approximately line 11, "Fig. 2" is inappropriate. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4, 5 and 10-12 rejected under 35 U.S.C. 102(b) as being anticipated by Meidan et al. (U.S. Patent No. 5,506,863) hereinafter referred as Meidan.

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Regarding claim 1, Meidan discloses of a communication system [***TDMA communication system as disclosed in col. 1, lines 15-20***] using multi-frame signals [***multi-frame as disclosed in fig. 4&5 and col. 7, lines 21-27***],

each frame of the multi-frame signal being divided into a plurality of timeslots [as disclosed in ***fig. 4 and col. 7, lines 15-18, each frame has timeslot including slot 0 and 1***],

wherein in at least one frame of the multi-frame signal first control channel [***control channel SCH, as disclosed in col. 7, lines 15-18***] information is transmitted in a first timeslot [***slot 0, as disclosed in col. 7, lines 15-18***] immediately preceding a second timeslot [***slot 1, as disclosed in col. 7, lines 15-18***] in which second control channel [***second control channel FCCH, as disclosed in col. 7, lines 15-18***] is transmitted as claim.

Regarding claim 4, Meidan discloses in ***col. 7, lines 10-20*** wherein a single burst (frame) containing first control channel information (SCH) and second control channel information (FCCH) is transmitted as claim.

Regarding claim 5, Meidan discloses in ***col. 7, lines 20-29*** wherein the control channel information contains information indicating the frame of the multi-frame containing the control channel information as claim.

Regarding claim 10, Meidan discloses in ***col. 7, lines 10-20***, wherein the first control channel is frequency correction information [***FCCH***] and the second control information is synchronization [***SCH***] information.

Regarding claim 11, Meidan discloses in **col. 3, lines 40-50** of a base station **[base site]** adapted for use in the communication system as claim.

Regarding claim 12, Meidan discloses in **col. 3, lines 40-50** of a subscriber station **[subscriber communication unit]** adapted for use in the communication system as claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Meidan et al. (U.S. Patent No. 5,506,863) hereinafter referred as Meidan in view of Barany et al. (U.S. Patent No. 6,584,084), hereinafter referred as Barany.

Regarding claim 2, Meidan discloses in **fig. 4** wherein burst contains control channel information. Meidan fails to disclose wherein burst containing control channel information overlaps the timeslot boundary between first and second timeslot. Barany discloses in **col. 18, lines 49 to col. 19, lines 8** of overlapping the timeslot boundary of packet data traffic control channels. **Barany clearly discloses in the respective section that the packet data traffic having control channel transmitted in time slot TN7 may start to slide into time slot TN0.**

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Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Meidan to include the teachings of the overlapping of timeslot boundary occurs when a burst includes control channels within the timeslot as taught by Barany. **One is motivated as such in order to provide for a higher effective channel reuse for the control channels on timeslots, assuring overcoming the problems associated with overlapping data control channels in time slots (Barany, col. 19, lines 15-40).**

Regarding claim 3, Meidan discloses in fig. 4&5 of adjacent bursts (frames with SCH and FCCH control channels) containing first (slot 0) and second (slot 1) control channel information. Meidan, however, explicitly fail to disclose that the adjacent bursts have a combined length greater than a normal burst length.

Barany discloses in column 14, lines 19-25 wherein the first control channel information is frequency correction information (PFCCH) and the second control channel information is synchronization information (PSCH). Barany further discloses in column 18, lines 15-22 wherein burst is 148 bits long for PFCCH and burst is 148 bits long for PSCH, totaling 296 bits long, which is greater than a normal burst length (which has one control channel at approximately 148 bits long). Thus applying the control burst length taught Barney, to the adjacent control channels FCCH and SCH in slots 0 and 1 within a frame as disclosed by Median provide for a greater length than one of a normal burst.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Meidan to include the teachings of the length of burst control channels as taught by Barany. **One is motivated as such in order to handle the**

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increased volume of call setups and terminations in a high bursty traffic area without compromising the bandwidth.

Regarding claim 7, Meidan disclosed in **fig. 4** of a burst frame having a control channel. Meidan fails to disclose wherein the length of a burst or the part of a burst containing first control channel information is variable.

Barany discloses in **column 15, lines 49 to column 16, lines 16** wherein the length of a burst or the part of a burst containing first control channel information is variable *[the number of blocks allocated for PBCCH and PCCCH control channel information is flexible, from two up to 12 blocks per time slot in each multi-frame 120]*.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Meidan to include the teachings of the length of burst having control channel is variable as taught by Barany. **One is motivated as such in order to handle the increased volume of call setups and terminations in a high bursty traffic area without compromising the bandwidth.**

Referring to claim 8, Meidan discloses in **fig. 4** wherein burst contains control channel information. Meidan fails to disclose that the length of a burst or part of a burst containing first control channel information depends on the size of cells in the communication system.

Barany discloses in **col. 18, lines 62 to col. 19, lines 39** that in a large cell size, a burst carrying a control channel transmitted in a timeslot TN0 may start to slide and overlap into time slot TN0 due to the propagation delays in the relatively large cell. Thus clearly suggesting

and/or implying that the length of a transmitting burst directly depend on the size of the cells. To overcome such a problem timeslots with control channels may be rearranged to provide an effective channel reuse.

Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to modify the teachings of Meidan to include the teachings of the length of burst depends on the size of the cell in the communication system as taught by Barany. **One is motivated as such in order to provide for a higher effective channel reuse for the control channels on timeslots (*Barany, col. 19, lines 15-40*).**

8. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Meidan in view of Suonvieri et al. (U.S. Patent No. 6,373,833), referred hereinafter as Suonvieri.

Meidan discloses in **fig. 4 and in col. 7, lines 15-18** of a communication system using multi-frame signals, where each frame is divided into a plurality of timeslots, where the first control channel is transmitted in the first timeslot and second control channel is transmitted in the second timeslot. Meidan further discloses in **col. 3, lines 40-50** of a control channel including RACCH (Random Access channel). Meidan however fails to explicitly disclose of length of the burst, which contains the first control channel information is less than the length of a normal length. Suonvieri teaches of a burst transmission in a TDMA system. Suonvieri discloses in **col. 2, lines 1-3** that the normal burst is the longest burst of all, specifically 148 bits long. **Suonvieri further discloses in col. 2, lines 17-28 that a RACH (access burst) having a control channel is only 87 bits compared to the 148 bits of the normal burst.** Therefore, it would have been obvious to one of ordinary skills in the art at the time of the invention to

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modify the teachings of Meidan to include the teachings of the length of burst containing first control channel information is less than the length of a normal burst as taught by Suonvieri. **One is motivated as such in order to increase mobility distance, assuring a mobile station to progress as far as 35 km before the access burst misses the reception time slot.**

Allowable Subject Matter

9. Claim 9 and 13 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703)305-3988, (for formal communications intended for entry)

Or:

(703)305-3988 (for informal or draft communications, please label "Proposed" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

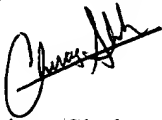
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 6:45 to 4:15, 2nd Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs
April 20, 2005

A handwritten signature in black ink, appearing to read 'Chirag Shah', written over a horizontal line.

Chirag Shah
AU 2664